

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Alexei A. Erchak
Serial No. : 10/724,004
Filed : November 26, 2003
Title : LIGHT EMITTING DIODES

Art Unit : 2811
Examiner :

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450


INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449.

This statement is being filed after a first Office action on the merits, but before receipt of a final Office action or a Notice of Allowance. A check for \$180 in payment of the late submission fee of §1.17(p) is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 8/13/04


Sean P. Daley
Reg. No. 40,978

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

20920498.doc

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

8/13/04
Date of Deposit


Signature

Neja Zarembok
Typed or Printed Name of Person Signing Certificate

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-007001	Application No. 10/724,004
	Applicant Alexei A. Erchak		
	Filing Date November 26, 2003	Group Art Unit 2811	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	5,359,345	10/25/94	Hunter et al.			
	AB	5,631,190	05/20/97	Negley et al.			
	AC	5,724,062	03/03/98	Hunter et al.			
	AD	5,799,924	07/14/98	Krames et al.			
	AE	5,955,749	09/21/99	Joannopoulos et al.			
	AF	6,071,795	06/06/00	Cheung et al.			
	AG	6,420,242	07/16/02	Cheung et al.			
	AH	6,559,075	05/06/03	Kelly et al.			
	AI	6,410,942	06/25/02	Thibeault et al.			
	AJ	6,657,236	12/02/03	Thibeault et al.			
	AK	2003/0141507	07/31/03	Krames et al.			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AL	WO 98/14986	04/09/98	PCT				
	AM							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AN	W.S. Wong et al. "Damage-free separation of GaN thin films from sapphire substrates", Appl. Phys. Lett. 72 (5), February 2, 1998, pages 599-601
	AO	M.K. Kelly et al. "Optical process for liftoff of Group III-nitride films", Physica Status Solidi; Rapid Research Note, November 28, 1996, 2 pages.
	AP	A. A. Erchak et al. "Enhanced coupling to vertical radiation using a two-dimensional photonic crystal in a semiconductor light-emitting diode", Appl. Phys. Lett. (78 (5), January 29, 2001, pages 563-565
	AQ	P.L. Gourley et al. "Optical properties of two-dimensional photonic lattices fabricated as honeycomb nanostructures in compound semiconductors", Appl. Phys. Lett. 64(6), February 7, 1994, pages 687-689
	AR	P.L. Gourley et al. "Optical Bloch waves in a semiconductor photonic lattice", Appl. Phys. Lett. 60 (22), June 1, 1992, pages 2714-2716
	AS	J.R. Wendt et al. "Nanofabrication of photonic lattice structures in GaAs/AlGaAs", J. Vac. Sci. Technol. B 11(6), November/December 1993, pages 2637-2640

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-007001	Application No. 10/724,004
Information Disclosure Statement by Applicant (Use several sheets if necessary)		Applicant Alexei A. Erchak	
		Filing Date November 26, 2003	Group Art Unit 2811
(37 CFR §1.98(b))			

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AT	M. Krames et al "Introduction to the Issue on High-Efficiency Light-Emitting Diodes", IEEE Journal on selected topic in quantum electronics, Vol. 8, No. 2 March/April 2002, pages 185-188
	AU	K. Streubel et al. "High Brightness AlGaInP Light-Emitting Diodes", IEEE Journal on selected topic in quantum electronics, Vol. 8, No. 2, March/April 2002, pages 321-332
	AV	M. Okai et al. "Novel method to fabricate corrugation for a $\lambda/4$ -shifted distributed feedback laser using a grating photomask", Appl. Phys. Lett. 55(5), July 31, 1989, pages 415-417
	AW	T.L. Koch et al. "1.55- μ InGaAsP distributed feedback vapor phase transported buried heterostructure lasers", Appl. Phys. Lett. 47 (1), July 1, 1985, pages 12-14
	AX	W.T. Tsang et al. "Semiconductor distributed feedback lasers with quantum well or superlattice grating for index or gain-coupled optical feedback", Appl. Phys. Lett. 60 (21), May 25 1992, pages 258-2582
	AY	M. Zelsmann et al. "Seventy-fold enhancement of light extraction from a defectless photonic crystal made on silicon-on-insulator", Appl. Phys. Lett. 83 (13), September 29, 2003, pages 2542-2544
	AZ	M. Rattier et al. "Omnidirectional and compact guided light extraction from Archimedean photonic lattices", Appl. Phys. Lett. 83 (7), August 18, 2003, pages 1283-1285
	AAA	Y.-J. Lee et al. "A high-extraction-efficiency nanopatterned organic light-emitting diode", Appl. Phys. Lett. 82(21), May 26, 2003, pages 3779-3781
	ABB	I. Schnitzer et al. "30% external quantum efficiency from surface textured, thin-film light-emitting diodes", Appl. Phys. Lett. 63 (18), October 18, 1993, pages 2174-2176
	ACC	M. Boroditsky et al. "Light extraction from optically pumped light-emitting diode by thin-slab photonic crystals", Appl. Phys. Lett. 75 (8), August 23, 1999, pages 1036-1038
	ADD	L. Chen et al. "Fabrication of 50-100 nm Patterned InGaN Blue Light Emitting Heterostructures", Phys. Stat. Sol. (a), 188 (1), 2001, pages 135-138.
	AEE	I. Bulu et al. "Highly directive radiation from sources embedded inside photonic crystals", Appl. Phys. Lett. 83 (16), October 20, 2003, pages 3263-3265
	AFF	T. N. Oder et al. "III-nitride photonic crystals", Appl. Phys. Lett. 83 (6), August 11, 2003, pages 1231-1233
	AGG	M.K. Kelly et al. "Optical patterning of GaN films", Appl. Phys. Lett 68 (12), September 16, 1996, pages 1749-1751

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Erchak et al.
 Serial No. : 10/724,004
 Filed : November 26, 2003
 Title : LIGHT EMITTING DIODES

Art Unit : 2826
 Examiner : Scott R. Wilson

Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Applicants submit the references listed on the attached form PTO-1449. Applicants also bring to the Examiner's attention the below listed 14 pending U.S. utility patent applications that are owned by the Assignee of the above-noted patent application.

Document Number	Patentee	Filing Date
10/723,987	Alexei A. Erchak	11/26/03
10/724,033	Alexei A. Erchak	11/26/03
10/724,006	Alexei A. Erchak	11/26/03
10/724,029	Alexei A. Erchak	11/26/03
10/724,015	Alexei A. Erchak	11/26/03
10/724,005	Alexei A. Erchak	11/26/03
10/735,498	Alexei A. Erchak	12/12/03
10/794,244	Alexei A. Erchak	3/5/04
10/794,452	Alexei A. Erchak	3/5/04
10/872,335	Alexei A. Erchak et al.	6/18/04
10/896,606	Alexei A. Erchak et al.	7/22/04
10/871,877	Alexei A. Erchak et al.	6/18/04
10/872,336	Alexei A. Erchak et al.	6/18/04
10/896,435	Alexei A. Erchak et al.	7/22/04

This statement is being filed after a first Office action on the merits, but before receipt of a final Office action or a Notice of Allowance. A check for \$180 in payment of the late

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

8/19/04
 Date of Deposit

Signature

Typed or Printed Name of Person Signing Certificate

Applicant : Alexei A. Erchak
Serial No. : 10/724,004
Filed : November 26, 2003
Page : 2 of 2

Attorney's Docket No.: 16459-007001 / LD-7

submission fee of \$1.17(p) is enclosed. Please apply any other charges or credits to Deposit
Account No. 06-1050.

Respectfully submitted,

Date:

8/19/04



Sean P. Daley
Reg. No. 40,978

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16459-007001	Application No. 10/724,004
	Applicant Alexei A. Erchak		
	Filing Date November 26, 2003	Group Art Unit 2826	

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date. If Appropriate
	AA	5,633,527	05/27/1997	Lear			02/06/95
	AB	5,363,009	11/8/1994	Monto			08/10/92
	AC	5,073,041	12/17/1991	Rastani			11/13/90
	AD	5,426,657	06/20/1995	Vakhsoori			05/27/94
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						
	AO						
	AP						
	AQ						
	AR						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AS							
	AT							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AU	

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	